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Adults with Cleft Lip and Palate and Hearing Loss

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ADULTS WITH CLEFT LIP AND/PALATE AND HEARING LOSS

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13th International Congress on Cleft Lip and Palate & Related Craniofacial Anomalies
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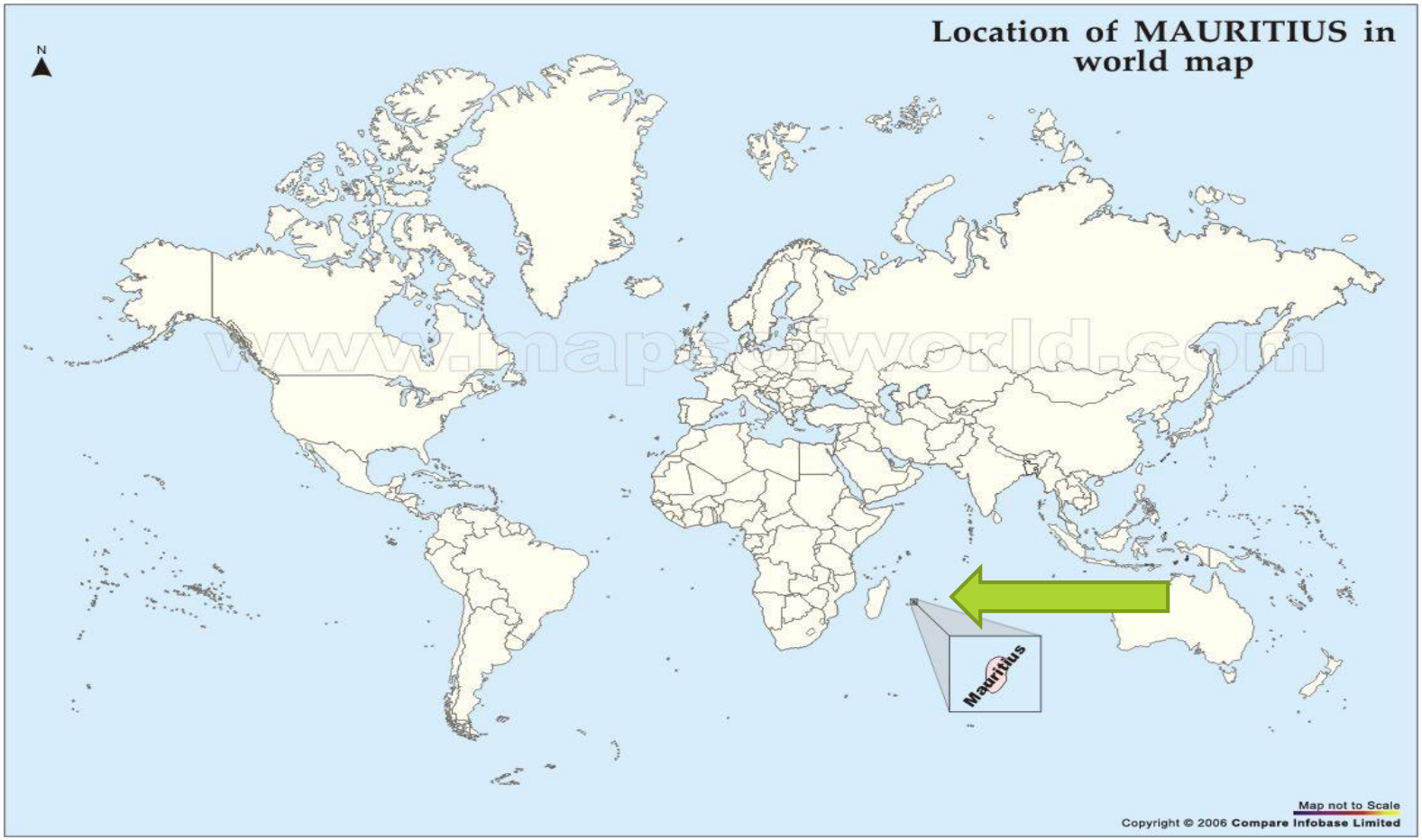
Disclosure

- Dr. Gopal has no financial or non-financial disclosures; she is employed by the Ministry of Health and Quality of Life, Mauritius.
- Dr. Louw has no financial or non-financial disclosures; she is employed by East Tennessee State University, Johnson City, TN.

Presentation of part of a larger research project: Experiences of Living with CL/P in Mauritius



Continuum of Cleft Care

- Starting point of team care is Early Intervention
- Continues through childhood and adolescence
- Then mostly an abrupt end to team care and limited adults services available

Current approach to cleft care in Mauritius

CURRENT CARE PROVIDED

Age of identification of cleft…….. new-born

Surgical history (median age)

- Primary lip repair…….. 5 months
- Primary palate repair……. 12 months

Follow up in Plastic Surgery clinic and Speech Therapy until adolescence.

Language/s spoken at home

- Most commonly 'Creole'…… 91%
- 2 languages (Creole and French) 58%

Schooling (Primary and secondary) English

WHEN and WHY DO WE STOP PROVIDING CLEFT CARE IN A DEVELOPINGCOUNTRY?

Statement of problem

- Young adults with CL/P continue to require the Team approach

- Their needs and aspirations change as the transition from adolescence to adulthood takes place.

A need was identified to give a voice to the young adults with CL/P in Mauritius and determine their hearing status.

HEARING IMPAIRMENT WITH CLEFT LIP/ AND PALATE

- Literature review: A high prevalence of HL in children with CL/P; up to 90% reported
- To avoid impact on child's language, educational and social development the ACPA recommends hearing tests and timely referral for otologic management (conservative medical treatment, ventilation tubes or hearing aids) as from the first year. Otologic and audiologic examination with treatment should occur as indicated through the school years.
- Theoretically with closure of cleft palate and growth phase the Eustachian tube function improves, the incidence of OME diminishes and hearing improves from childhood to adolescence.
- Retrospective studies indicate that there is persistent hearing loss among cases with BCLP and known complication of ventilation tubes, perforation, tympanosclerosis, retraction pocket and otalgia.
- Studies that report the hearing status among young adults with CL/P are few. No reports were found regarding results of the full audiology test battery.

HEARING STATUS OF YOUNG ADULTS WITH CL/P IN MAURITIUS

RESEARCH METHODOLOGY:

- **Design:** Mixed methodology descriptive research design
- **Study site:** Audiology and Speech therapy unit, Public Health Sector, Mauritius
- **Participants:**
  - **Young adults 16-40 years with CL/P** Non-syndromic

    (n=21: Total 42 ears)
- **Ethical Clearance** from the health authorities in Mauritius
- **Voluntary Informed Consent** from each of the participants

Framework and research question

- The International Classification of Functioning, Disability and Health (ICF) developed by the World Health Organization (WHO 2001) is a framework to address functioning and disability related to a health condition within the context of the individual's activities and participation in everyday life.
- Therefore, in addition to the audiologic test battery the individual's perception of hearing status and its impact on communication should be considered.
- The aim of this study is to describe the hearing status of Mauritian adults living with CL/P and their perceptions of the role of hearing in their lives

Does hearing status of young adults with CL/P require continued monitoring?

DATA COLLECTION

- Hearing evaluations of 21 young adults with CL/P
- Otologic Examination by ENT specialist
- Questionnaire : Perception of hearing loss and its impact on communication
- Audiologic test battery for both ears for the 21 participants
- Pure-tone audiogram
- Speech Reception Threshold and Speech Discrimination score
- Middle ear analysis
- Eustachian tube function test
- Distortion Product Otoacoustic Emissions (65/55 dB SPL at 4 points)

APPARATUS AND MATERIAL

Otologic examination by ENT specialist using an otoscope and examination light

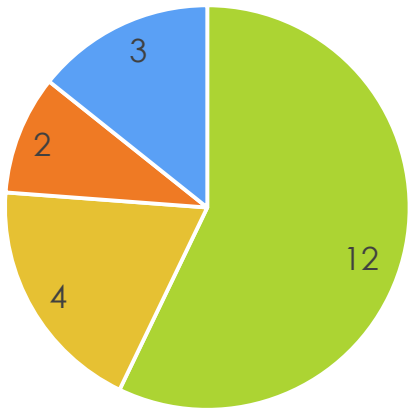
Astera OtoMetrics Audiometer:
-Pure tone audiometry with headphones, BC vibrator
-Speech Audiometry in sound field with pre-recorded AB list of English words

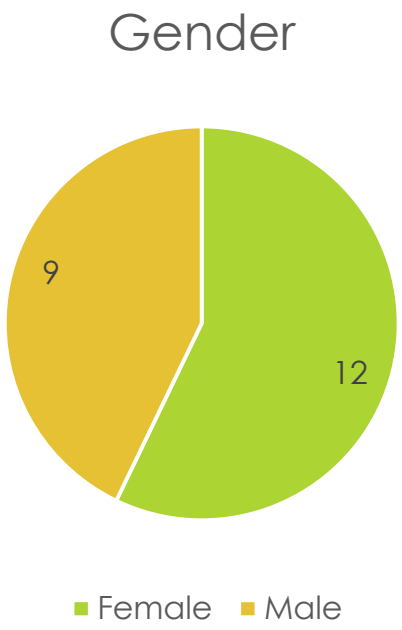
Interacoustics AZ 26 Middle Ear analyser:
-Tympanometry
-Acoustic reflex thresholds (Ipsilateral)
-Eustachian Tube function test

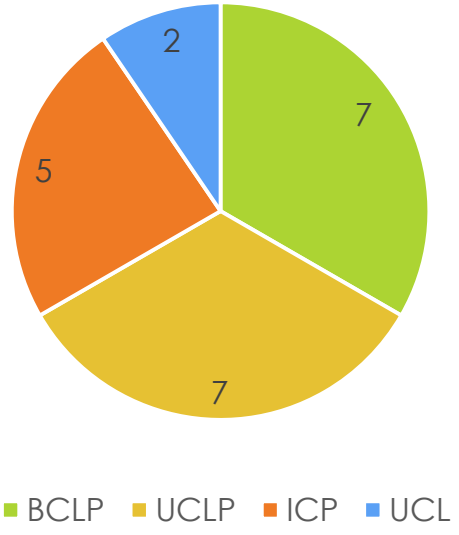
Audera GSI:
-DPOAE

Test data recording sheet

DEMOGRAPHICS OF RESEARCH PARTICIPANTS (n= 21)







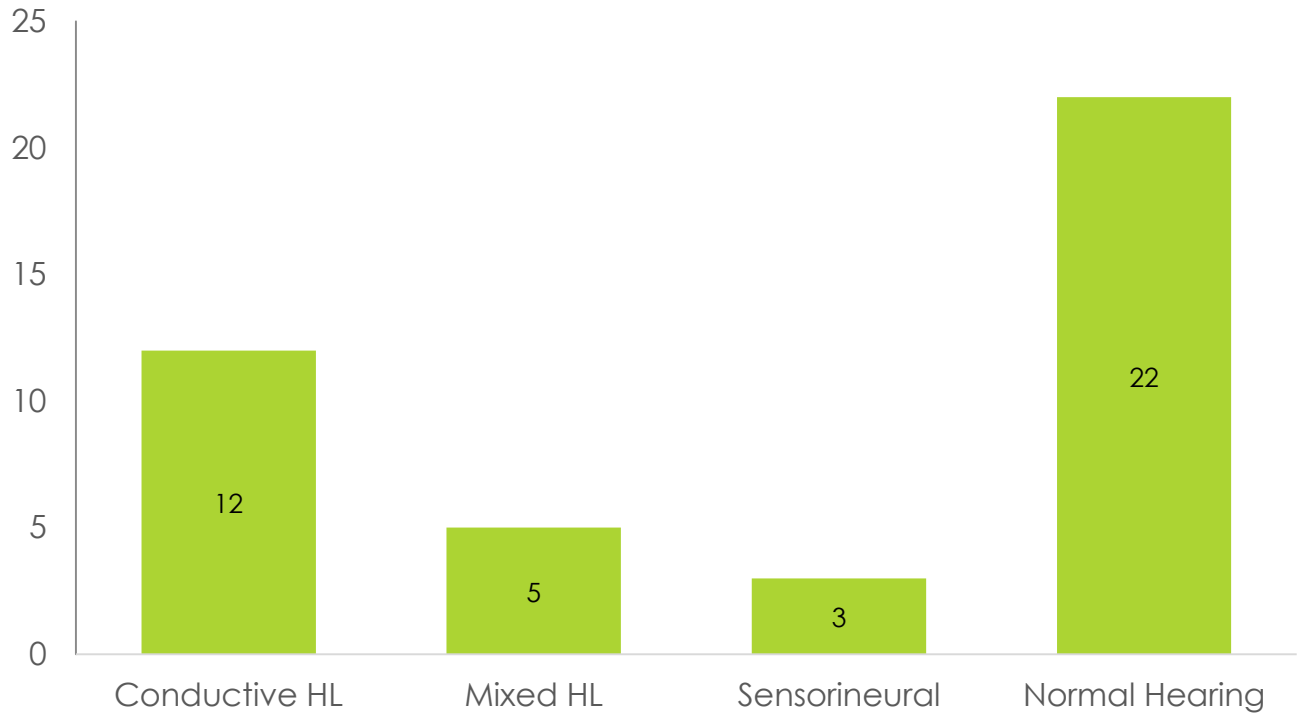
PARTICIPANTS PERCEPTION OF HEARING LOSS (n=21)

	YES	NO
HISTORY OF EAR SURGERIES (# OF EARS)	9	12
PERCEPTION OF HL	10	11
HEARING LOSS CAUSES DIFFICULTIES WITH COMMUNICATION	8	13

OTOLOGIC EXAMINATION (n=21)
42 Ears

OTOLOGIC EXAMINATION	NUMBER OF EARS
NORMAL	28
IMPACTED WAX	2
TYMPANSCLEROSIS *DULL/RETRACTED TM* *PERFORATION / HEALED PERFORATION*	2 6 4
ATRESIA *SCARRED TM* *OTHER ABNORMALITY* *USING HEARING AIDS*	0 0 0 1

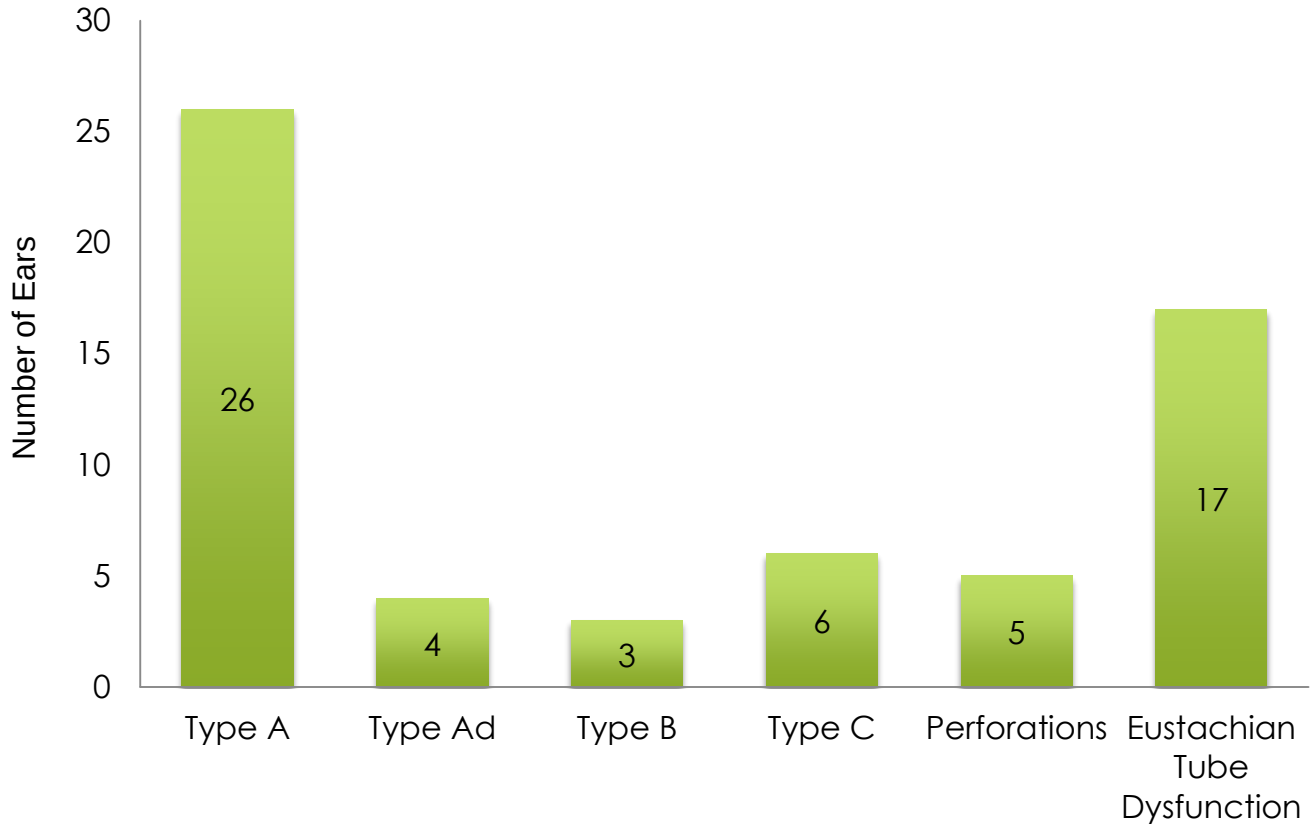
Type of hearing loss (based on Pure Tone Audiometry)



Speech audiometry results

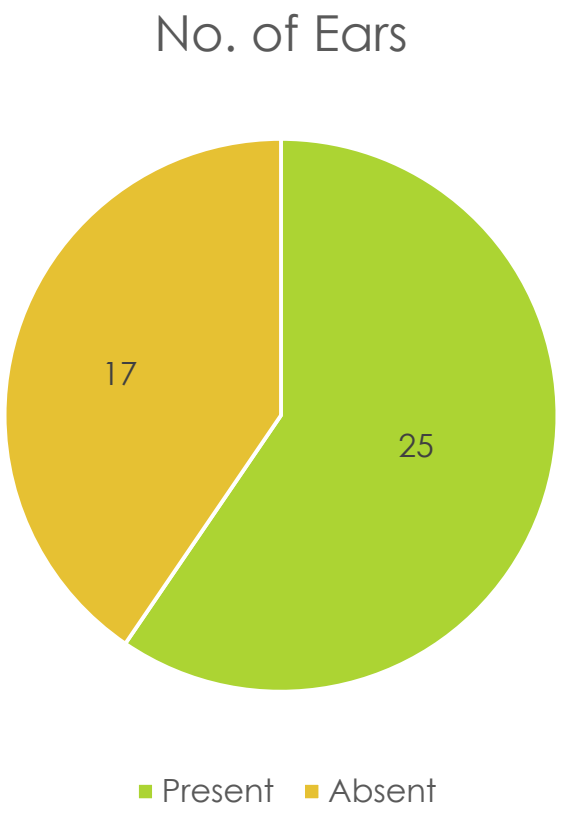
SRT in dB HL	Number of Ears	ICF category
25 dB and less	20	0
30 dB to 45 dB	14	1
50 dB to 65 dB	8	2
SDS at 25 dB SL **90%-100%** **60%-80%**	 **40** **2**	 **0** **2**

IMMITTANCE RESULTS



DPOAE RESULTS

- n=42
- 4 points tested and if 3 out of 4 present reported as present.
- NB: DPOAE was tested for all ears



SUMMARY OF HEARING TEST BATTERY IN ACCORDANCE WITH ICF-HEARING RESPONSE CRITERIA

- ***0 No difficulty*** means the person has no problem — **22 ears**
- ***1 Mild difficulty*** means a problem that is present less than 25% of the time, with an intensity a person can tolerate: and which happens rarely over the last 30 days. — **12 ears**
- ***2 Moderate difficulty*** means that a problem that is present less than 50% of the time, with an intensity, which is interfering in the persons day to day life and which happens occasionally over the last 30 days. — **7 ears**
- ***3 Severe difficulty*** means that a problem that is present more than 50% of the time, with an intensity, which is partially disrupting the persons day to day life and which happens frequently over the last 30 days. — **1 ear**
- ***4 Complete difficulty*** means that a problem that is present more than 95% of the time, with an intensity, which is totally disrupting the persons day to day life and which happens every day over the last 30 days. — **0 ear**

Conclusions and Implications

- Conclusion:
  - Almost 50% of young adults with CL/P had mild to moderate HL
- Clinical implications:
  - Follow a holistic approach to hearing health
  - Continue to monitor hearing of adults with CL/P
  - Conduct full hearing test battery with treatment as indicated.
  - Use the ICF framework to determine young adults' perception of their hearing and possible impact on communication.

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Thank You For Your Attention

Q & A